

YANO et al  
Appl. No. 10/750,957  
Response to Office Action dated August 10, 2005

### AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

#### Listing of Claims:

Claim 1 (Currently Amended): A navigation apparatus comprising:  
an acquisition device for acquiring ~~a~~ the current position of a moving body;  
a registration device ~~for that is used when registering a~~ the destination ~~to which said moving body is to reach;~~  
a reading device in which a portable recording medium on which map data is recorded is mounted and which reads at least the map data recorded on the portable recording medium;  
a setting device for setting a route to ~~the said~~ destination based on the acquired current position, the registered destination and the recorded map data;  
a memory device for storing map data used ~~for~~ route guidance for the moving body based on the set route; and  
a transfer device for transferring the map data used for route guidance, which has a preset geographical range that includes ~~a~~ the road set as the route, based on the current position of the moving body and the set route, from ~~the said~~ portable recording medium to the memory device, wherein the geographical range of the map data surrounding a predetermined point on the set route is wider than the geographical range of the map data surrounding another point on the set route.

Claim 2 (Currently Amended): The navigation apparatus according to claim 1, wherein:  
~~said transfer device, when transferring the map data, sets a geographical range of for the map data surrounding the destination on the set route is wider than based on preset transfer conditions, and then transfers the map data from said portable recording medium to said~~

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~~recording medium based on the set geographical range of the map data surrounding the other point on the set route.~~

Claim 3 (Currently Amended): The navigation apparatus according to claim 2, wherein

~~said transfer device sets the geographical ranges range of the map data surrounding the destination on with at least one of the amount of the map data and the route characteristics indicating the characteristics of the set route and of the current position of the moving body when the route is set are wider than the geographical range of the map data surrounding the other point on the set route as the transfer condition.~~

Claims 4-8 (Canceled).

Claim 9 (Currently Amended): A navigation map data acquisition method comprising:

an acquisition step of acquiring a the current position of a moving body;  
a registration step of registering a the destination to which said moving body is to reach;  
a reading step of reading the map data recorded on a mounted portable recording medium; and

a setting step for setting a route to the destination based on the acquired current position, the registered destination and the recorded map data; and

a recording step of transferring the map data, which has a preset geographical range that includes a the road set as the route, based on the current position of the moving body and the set route, from the said portable recording medium to a memory device, and storing recording the transferred map data in the on said memory device as the map data used for using route guidance for the moving body based on the set route.

wherein the geographical range of the map data surrounding a predetermined point on the set route is wider than the geographical range of the map data surrounding another point on the set route.

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Claim 10 (Currently Amended): The navigation map data acquisition method according to claim 9, wherein:

~~the said recording step of setting a geographical range of for the map data surrounding the destination on the set route is wider than based on preset transfer conditions when transferring the map data, and then transferring the map data from said portable recording medium to said recording medium based on the set geographical range of the map data surrounding the other point on the set route.~~

Claim 11 (Currently Amended): A recording medium on which wherein a map data acquiring program is recorded so as to be read by a computer, the computer included in a navigation apparatus for navigating a moving mobile body, ~~the said~~ program causing the computer to function as:

an acquisition device for acquiring a the current position of the ~~[[a]]~~ moving body;  
a registration device for registering a the destination ~~to which said moving body is to reach;~~

a reading device for reading the map data recorded on a mounted portable recording medium; and

a recording device for transferring the map data, which has a preset geographical range that includes a the road set as the route, based on the current position of the moving body and the set route, from the said portable recording medium to a memory device, and storing recording the transferred map data in the on-said memory device as the map data used for using route guidance for the moving body ~~based on the set route,~~

wherein the geographical range of the map data surrounding a predetermined point on the set route is wider than the geographical range of the map data surrounding another point on the set route.

Claim 12 (Currently Amended): The recording medium according to claim 11, wherein the ~~program further causes the computer to function as:~~

~~said recording device for setting a geographical range of for the map data surrounding the destination on the set route is wider than based on preset transfer conditions when transferring~~

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~~the map data, and then transferring the map data from said portable recording medium to said recording medium based on the set geographical range of the map data surrounding the other point on the set route.~~

Claim 13 (New): The navigation map data acquisition method according to claim 9, wherein

the geographical ranges of the map data surrounding the destination on the set route and of the current position of the moving body when the route is set are wider than the geographical range of the map data surrounding the other point on the set route.

Claim 14 (New): The recording medium according to claim 11, wherein  
the geographical ranges of the map data surrounding the destination on the set route and of the current position of the moving body when the route is set are wider than the geographical range of the map data surrounding the other point on the set route.

Claim 15 (New): A navigation apparatus comprising:  
an acquisition device for acquiring a current position of a moving body;  
a registration device for registering a destination;  
a reading device in which a portable recording medium having block map data recorded thereon is mounted and which reads at least the block map data recorded on the portable recording medium, the block map data formed by dividing an entire map into a plurality of blocks;  
a setting device for setting a route to the destination based on the acquired current position, the registered destination and the recorded block map data;  
a memory device for storing block map data transferred thereto;  
a transfer device for setting block map data belonging to a geographical range that includes a road set as the route, and for transferring the set block map data from the portable recording medium to the memory device during route guidance along the set route;  
a route guidance device for performing the route guidance based on the set route and the block map data stored in the memory device; and

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a delete device for deleting stored and spent block map data for the route guidance from the memory device when there is not enough space for storing all of the set block map data in the memory device,

wherein the transfer device interrupts transferring the set block map data when there is not enough space for storing all of the set block map data in the memory device, and transfers set block map data not previously transferred after the delete device deletes the stored and spent block map data for the route guidance.

Claim 16 (New): A navigation apparatus comprising:

an acquisition device for acquiring a current position of a moving body;

a registration device for registering a destination;

a reading device in which a portable recording medium having block map data recorded thereon is mounted and which reads at least the block map data recorded on the portable recording medium, the block map data formed by dividing an entire map into a plurality of blocks;

a setting device for setting a route to the destination based on the acquired current position, the registered destination and the recorded block map data;

a memory device for storing block map data transferred thereto;

a transfer device for setting block map data belonging to a geographical range that includes a road set as the route, and for transferring the set block map data from the portable recording medium to the memory device during route guidance along the set route; and

a route guidance device for performing the route guidance based on the set route and the block map data stored in the memory device, wherein

(i) the transfer device interrupts transferring set block map data when the portable recording medium is removed from the reading device during the route guidance and the route guidance device performs the route guidance based on the block map data stored in the memory device prior to the interrupting of the transferring, and

(ii) when the portable recording medium is mounted on the reading device again after the removing thereof, the transfer device transfers set block map data based on a route to the

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destination from the current position of the moving body acquired when the portable recording medium is mounted again.

Claim 17 (New): A navigation apparatus comprising:  
an acquisition device for acquiring a current position of a moving body;  
a registration device for registering a destination;  
a reading device in which a portable recording medium having map data recorded thereon is mounted and which reads at least the map data recorded on the portable recording medium;  
a setting device for setting a route to the destination based on the acquired current position, the registered destination and the recorded map data;  
a memory device for storing map data used route guidance for the moving body based on the set route; and  
a transfer device for transferring map data, which has a geographical range that includes a road set as the route, based on the current position of the moving body and the set route, from the portable recording medium to the memory device,  
wherein the setting device resets the route based on the map data which is already stored in the memory device.

Claim 18 (New): A navigation map data acquisition method comprising:  
an acquisition step of acquiring a current position of a moving body;  
a registration step of registering a destination;  
a reading step of reading block map data recorded on a mounted portable recording medium, the block map data formed by dividing an entire map into a plurality of blocks;  
a setting step of setting a route to the destination based on the acquired current position, the registered destination and the recorded block map data;  
a recording step of setting block map data belong to a geographical range that includes a road set as the route, transferring the set block map data from the portable recording medium to a memory device during route guidance along the set route, and storing the transferred block map data in the memory device;

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a route guidance step of performing the route guidance based on the set route and the block map data stored in the memory device;

an interrupting step of interrupting transferring of the set block map data when there is not enough space for storing all of the set block map data in the memory device;

a delete step of deleting stored and spent block map data for route guidance from the memory device after the transferring of the set block map data is interrupted; and

a transferring step of transferring set block map data not previously transferred after deleting the stored and spent block map data for route guidance.

Claim 19 (New): A navigation map data acquisition method comprising:

an acquisition step of acquiring a current position of a moving body;

a registration step of registering a destination;

a reading step of reading block map data recorded on a mounted portable recording medium, the block map data formed by dividing the entire map into a plurality of blocks;

a setting step of setting a route to the destination based on the acquired current position, the registered destination and the recorded block map data;

a recording step of setting the block map data belonging to a geographical range that includes a road set as the route, transferring the set block map data from the portable recording medium to a memory device during route guidance along the set route, and storing the transferred block map data in the memory device;

a route guidance step of performing the route guidance based on the set route and the block map data stored in the memory device;

an interrupting step of interrupting transferring of the set block map data when the portable recording medium is removed from the reading device during the route guidance; and

a transferring step of transferring set block map data based on a route to the destination from the current position of the moving body acquired when the portable recording medium is mounted again on the reading device again after the removing of the portable recording medium,

wherein route guidance is performed based on the block map data stored in the memory device by the interrupting of the transferring when the portable recording medium is removed from the reading device during the route guidance.

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Claim 20 (New): A navigation map data acquisition method comprising:  
an acquisition step of acquiring a current position of a moving body;  
a registration step of registering a destination;  
a reading step of reading map data recorded on a mounted portable recording medium;  
a setting device for setting a route to the destination based on the acquired current position, the registered destination and the recorded map data;  
a recording step of transferring the map data, which has a geographical range that includes a road set as the route, based on the current position of the moving body and the set route, from the portable recording medium to a memory device, and storing the transferred map data in the memory device as map data for use in route guidance,  
wherein the route is reset based on map data which is already stored in the memory device.

Claim 21 (New): A recording medium on which a map data acquiring program is recorded so as to be read by a computer, the computer included in a navigation apparatus for navigating a moving body, the program causing the computer to function as:  
an acquisition device for acquiring a current position of the moving body;  
a registration device for registering a destination;  
a reading device in which a portable recording medium having block map data recorded thereon is mounted and which reads at least the block map data recorded on the portable recording medium, the block map data formed by dividing the entire map into a plurality of blocks;  
a setting device for setting a route to the destination based on the acquired current position, the registered destination and the recorded block map data;  
a transfer device for setting block map data belonging to a geographical range that includes a road set as the route, for transferring the set block map data from the portable recording medium to a memory device during route guidance along the set route, and for storing the transferred block map data in the memory device;



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a route guidance device for performing the route guidance based on the set route and the block map data stored in the memory device; and

a delete device for deleting stored and spent block map data for the route guidance from the memory device when there is not enough space for storing all of the set block map data in the memory device,

wherein the transfer device interrupts transferring the set block map data when there is not enough space for storing all of the set block map data in the memory device, and transfers set block map data not previously transferred after the delete device deletes the stored and spent block map data for the route guidance.

Claim 22 (New): A recording medium on which a map data acquiring program is recorded so as to be read by a computer, the computer included in a navigation apparatus for navigating a moving body, the program causing the computer to function as:

an acquisition device for acquiring a current position of the moving body;

a registration device for registering a destination;

a reading device in which a portable recording medium having block map data recorded thereon is mounted and which reads at least the block map data recorded on the portable recording medium, the block map data formed by dividing the entire map into a plurality of blocks;

a setting device for setting a route to the destination based on the acquired current position, the registered destination and the recorded block map data;

a transfer device for setting block map data belonging to a geographical range that includes the road set as the route, for transferring the set block map data from the portable recording medium to a memory device during route guidance along the set route, and for storing the transferred block map data in the memory device;

a route guidance device for performing the route guidance based on the set route and the block map data stored in the memory device, and wherein

(i) the transfer device interrupts transferring set block map data when the portable recording medium is removed from the reading device during the route guidance and the route

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guidance device performs the route guidance based on the block map data stored in the memory device prior to the interrupting of the transferring, and

(ii) when the portable recording medium is mounted on the reading device again after the removing thereof, the transfer device transfers set block map data based on a route to the destination from the current position of the moving body acquired when the portable recording medium is mounted again.

Claim 23 (New): A recording medium on which a map data acquiring program is recorded so as to be read by a computer, the computer included in a navigation apparatus for navigating a moving body, the program causing the computer to function as:

an acquisition device for acquiring a current position of the moving body;

a registration device for registering a destination;

a reading device in which a portable recording medium on which map data is recorded is mounted and which reads at least the map data recorded on the portable recording medium;

a setting device for setting a route to the destination based on the acquired current position, the registered destination and the recorded map data;

a transfer device for transferring map data, which has a geographical range that includes a road set as the route, based on the current position of the moving body and the set route, from the portable recording medium to a memory device, and for storing the transferred block map data in the memory device;

wherein the setting device resets the route based on the map data which is already stored in the memory device.